

ABSTRACT OF THE DISCLOSURE

A solid state radiation detector 20 is formed by stacking a first electrode layer 21, a recording photoconductive layer 22, a charge transfer layer 23, a reading photoconductive layer 24, and a second electrode layer 26 having a stripe electrode 26 consisting of main elements 26a, in the recited order. A large number of secondary elements 27a, for outputting an electrical signal which has a level proportional to a quantity of latent image charge stored in a charge storage portion 29 formed in the interface between the recording photoconductive layer 22 and the charge transfer layer 23, are provided so that the main and secondary elements are alternately arranged in parallel to one another. The width  $W_b$  of the main element 26a, the transmission factor  $P_b$  of the main element 26a with respect to the reading light, the width  $W_c$  of the secondary element 27a, and the transmission factor  $P_c$  of the secondary element 27a with respect to the reading light are determined so that they satisfy a condition equation of  $(W_b \times P_b)/(W_c \times P_c) \geq 1$ .